REMARKS

Claims 1-16 remain in the Application. No claim has been allowed.

Claims 1, 5-9, and 11-14, and 16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kadansky (U.S. 6,507,562) in view of Dillon (U.S. 2003/0206554). Claims 2, 3, and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kadansky in view of Dillon further in view of Gupta (U.S. 6,577,599). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kadansky in view of Dillon further in view of McNeil (U.S. 6,421,706). Claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kadansky and Dillon in view of McNeil and further in view of Wada (U.S. 2003/0007481).

With regard to item 2 on page 2 of the Office Action, the Examiner states that Kadansky discloses a method wherein the step of notifying the end node devices includes an expected start time and duration information (column 32, lines 55-59). Applicants' respectively assert that, on the contrary, nowhere does Kadansky teach notifying end nodes of an expected start time. The cited passage merely describes the experimental parameters of a computer software simulation model (column 32, lines 30-32). The cited passages are silent with regard to a system which notifies end nodes of any time information whatsoever.

Moreover, even if Kadansky were to notify end nodes of this information, which Applicants' do not acquiesce, the start time would still not be determinable. The cited passage describes an experiment where 1000 packets are sent 1.5 seconds from the beginning of a simulation. Kadansky does not teach how the simulation start time itself is determined. Without the simulation start time, it is impossible to determine the expected start time of transmission.

Furthermore, item 2 of the Office Action states that Kadansky discloses that the whole transmission time should take 22.4 and 23 seconds which reads on duration information (emphasis in original). Again, this data merely describes the conditions of the simulation experiment. Here, the duration information is a result of calculating the time for the slowest, bandwidth-limited link defined in the simulation model, not the Tree based Reliable Multicast

protocol (TRAM) system in operation. Accordingly, Kadansky does not teach how duration information is determined for the system in use.

Lastly, as noted in the previous Office Action, Applicants' definition of "start time" and "end time" refers to a particular date and time, not just a 'duration information'. It is clear from Applicants' specification that a multicast start time is expressed in Universal Time Code (UTC) notations such as a date and time of day, and a multicast duration in milliseconds (See Fig. 2.) Thus, the passage cited only provides duration information from the simulation's arbitrary starti time, not a particular date and time. This permits the calculation of a package end (expire) time in Fig. 3A.

With regard to item 3 of the Office Action, the Examiner stated that "since the receivers are *informed* of the transmission rate (column 33, lines 10-16) as well as the sequence number of the last data packet (column 33, lines 48-56), an expected end time for the scheduled transmission is *indicated*. Applicants' respectively submit that the receivers in Kadansky are not informed of the transmission rate. Furthermore, Kadansky does not teach how end time is determined from the sequence number of the last data packet and the transmission rate.

Applicant concedes that Kadansky does transmit the sequence number of the last data packet. However, nowhere does Kadansky teach or suggest *informing* the receivers of the transmission rate. Column 33, lines 10-16 merely describe the systems operating conditions, e.g., the maximum possible transmission rate and TRAM's oscillation rate. However, Kadansky is silent with regard to informing the receivers of the transmission rate. Furthermore, even if the receivers were informed of this information, the transmission rate and sequence number of the last packet is not enough information to determine the expected end time.

In addition, the Office Action describes an example where the receivers are aware that the transmission starts 30 seconds from now, and if transmission takes 23 seconds, the expected end time is 53 seconds from now. As stated above in item 2, Kadansky does not actually teach how the '30 seconds from now' (i.e. the transmission start time) would be determined in a functioning system. Furthermore, Applicants' end time, as described above, refers to a particular date and time, expressed in UTC notation, not as a time differential as described in the example in item 3 of the Office Action.

Lastly, the Applicants' invention of using an expected end time is different from and contains advantages over the prior art in that the end time is transmitted before the bulk data gets transmitted. Kadansky must periodically transmit the beacon packet until all of its members have acknowledged receipt of all packets (column 33, lines 48-59) - thus, consuming additional bandwidth and creating additional network traffic.

However, in order to further prosecution, Claim 1 has been amended to clarify that in notifying a plurality of end node devices of the scheduled bulk data transmission, such notification including information indicating an expected end time for the scheduled transmission, the notification occurring before the bulk data transmission. This further distinguishes the cited reference, in that the beacon disclosed in Kadansky cannot be transmitted to the receivers until *after* the last packet is transmitted, whereas claim 1 as currently amended, claims notifying the end nodes of the end time *before* the bulk data transmission.

Therefore, both Applicants' claim steps of (a) notifying the plurality of end node devices of an expected end time for the scheduled transmission, as well as (b) at the expected end time, determining if the bulk data content was received as expected, are not found in the Kadansky prior art.

Dillon also does not provide these missing claimed features of Applicants' invention. In order for an invention to be considered obvious, each element of the claim must be found in the prior art. Claim 1 therefore is not obvious or anticipated by either Dillon or Kadansky and should be allowable.

Claims 2, 3 and 15 were also rejected as being unpatentable over Kadansky in view of Dillon; and additionally and further in view of Gupta, U.S. Patent 6,577,599. As has been explained above, neither Kadansky nor Dillon teach the claimed step of determining an expected end time for the selected transmission, and thus cannot be considered to provide all of Applicants' claimed features. Neither does Gupta. These claims are also allowable.

Claim 4 was further rejected in view of Kadansky, Dillon and McNeil. McNeil also does not supply the novel elements of Applicants' claim. In particular, McNeil has no teaching of notifying a plurality of end node devices of a scheduled bulk data transmission including information that can be used to determine an expected end time. Thus, claim 4 is likewise allowable.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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